DOCUMENT RESUME

ED 350 797 EC 301 610

TITLE	Guidelines for School Vision Screening Programs. 2nd Edition.
INSTITUTION	Colorado State Dept. of Health, Denver.
PUB DATE	Sep 91
NOTE	30p.; Project was supported and funded by the Adolph Coors Foundation.
AVAILABLE FROM	Colorado Department of Health, Community Nursing Section, 4210 E. 11th Ave., Denver, CO 80220.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Elementary Secondary Education; Guidelines; Program Development; Program Implementation; Records (Forms); Referral; *Screening Tests; Staff Role; Vision; *Vision Tests; *Visual Impairments
IDENTIFIERS	Colorado

ABSTRACT

These Colorado guidelines explain the purpose of vision screening programs in schools and draw a distinction between screening and a screening program. They outline types of screening to be carried out for students at each grade level. Screening procedures are then described in detail, including: history and external observations, distance visual acuity, plus lens, near point of convergence, alternate cover test, stereo/depth perception, and color vision. Sample forms are provided, along with tips for successful implementation of each procedure. Referral criteria and procedures are outlined, steps in the follow-up process are listed, and training requirements for staff administering each procedure are noted. An appendix summarizes the guidelines in chart form, lists equipment needed, and provides various forms. (JDD)

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GUIDELINES

FOR

SCHOOL VISION

SCREENING PROGRAMS

SEPTEMBER 1991
2ND EDITION

EC 301610

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F O R

S C H O O L V I S I O N S C R E E N I N G

P R O G R A M S

S E P T E M B E R 1 9 9 1

2ND EDITION

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This Project was supported and funded by:

The Adolph Coors Foundation

and endorsed by:

Colorado Department of Education
William T. Randall, Commissioner

Colorado Department of Health
Joel Kohn, Interim Executive Director

Colorado Ophthalmological Society

Colorado Optometric Association

Printed and Distributed By

Colorado Department of Health
Community Nursing Section
4210 E. 11th Avenue
Denver, Colorado 80220

September 1991
2nd Edition

GUIDELINES FOR SCHOOL VISION SCREENING PROGRAMS

INTRODUCTION

Screening for vision problems is an appropriate and very important part of school health services - largely carried out by the school registered nurse. Supplemental help for diagnosis and treatment is the function and responsibility of the eye doctor. There are roles for paraprofessionals in vision screening also, but only under the supervision of the school registered nurse. It should be noted that vision screening is mandated by Colorado law for school age children.

What is screening and why should you do it? Screening is designed for early identification and diagnosis of disease and functional disorders. If we can identify a potentially handicapping condition before it becomes symptomatic, then diagnosis and treatment can be undertaken at the optimum time, and may decrease the cost. The screening is to be an easy, relatively inexpensive way to identify from a large number of apparently well people, those who may be at risk of having a potentially handicapping condition. Screening makes for a more careful expenditure of scarce resources because elaborate and costly assessment and diagnostic procedures are reserved for those persons identified as being most likely to have a potentially handicapping condition. Additionally, people at low risk are spared the trouble and expense of undergoing such procedures.

There is a distinction between screening and a screening program. Screening is a means of acquiring significant data about a population. Whereas, a screening program uses the collected data to refer students with possible vision problems for further evaluation and treatment. The distinguishing characteristic, then, is intervention which is an essential component of a screening program. Intervention in the school setting might be adapting the school program to meet the student's needs if a problem can't or hasn't been corrected.

The school nurse should plan the vision screening program with input from those involved. The success of any screening program ultimately depends upon securing the cooperation of school personnel, the child, eye doctor and others who may be participating. Arrangements which cause problems (delays, inconvenience, what may appear to be unnecessary red tape) may lessen willingness to participate and thereby limit the effectiveness of the program. Careful planning can reduce such problems. Here are some steps [1] which should be helpful:

1. Use simple administrative procedures. Complicated ones may discourage students; time consuming ones may not be practical in the school setting.

2. Avoid unnecessary delays. Long time lapses between the screening and the start of evaluation/treatment makes the student and parent think the problem is not very important.

[1] Frankenburg, W.H. and Camp, B.W., Pediatric Screening Tests. Charles C. Thomas, Publisher, Springfield, Illinois, 1975.

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3. Eliminate unnecessary referrals.

4. Communicate fully with students, parents, and eye doctors.

5 Provide both setting and staff conducive to the comfort and self-esteem of the student.

6. Avoid duplication of services provided.

7. Provide supportive services when possible, i.e., translators, transportation.

8. Protect confidentiality.

9. Know what resources are available in the community.

10. Work with the community to help get new resources established.

WHO IS TO BE SCREENED

Vision screening is to be done each year for:

- all students in preschool, kindergarten, 1st, 2nd, 3rd, 5th, 7th, and 9th grade levels.
- all children new to the school system.
- all children referred by school personnel.
- all students in special education programs.

Vision screening should also be provided for all high-risk children including:

- those who repeat a grade.
- those who failed vision screening during the previous school year and did not receive further evaluation.

SCREENING PROCEDURES TO BE USED

	Preschool	kdg	1	2	3	5	7	9	Special ed	New Students	Referrals
1. History and External Observations	x	x	x	x	x	x	x	x	x	x	x
2. Distance Visual Acuity	x	x	x	x	x	x	x	x	x	x	x
3. Plus Lens			x	x	x	x	x	x	x	x	x
4. Near Point of Convergence	x	x	x	x	x	x	x	x	x	x	x
5. Alternate Cover	x	x	x	x	x	x	x	x	x	x	x
6. Stereo Depth Perception	x	x	x	x	x	x	x	x	x	x	x
7. Color Vision			x						x	x	x

VISION SCREENING PROCEDURES

I. HISTORY AND EXTERNAL OBSERVATIONS

PURPOSE: To detect any history or outwardly obvious ocular pathology or abnormalities.

GRADES: Should be ongoing, year round observation of all students by parents, teachers and other school personnel.

PROCEDURE: Provide the school personnel with a list of symptoms and student complaints that might indicate a vision problem.

A. Appearance of Eyes

- One eye turns in or out at any time.
- Reddened eyes or lids.
- Eyes tear excessively.
- Encrusted eyelids.
- Frequent styes or swollen lids.
- Drooping lids.

B. Complaints When Working at a Desk

- Headaches in forehead or temples.
- Burning or itching eyes after reading or desk work.
- Nausea or dizziness.
- Print blurs after reading a short time.

C. Behavioral Signs of Visual Problems

1. Eye Movement Abilities (Ocular Motility)

- Head turns as reads across page.
- Loses place often during reading.
- Needs finger or marker to keep place.
- Displays short attention span in reading or copying.
- Too frequently omits words.
- Repeatedly omits "small" words.
- Writes up or down hill on paper.
- Rereads or skips lines unknowingly.
- Orients drawings poorly on page.

2. Eye Teaming Abilities (Binocularity)

- Complains of seeing double (diplopia).
- Repeats letters within words.
- Omits letters, numbers, or phrases.
- Misaligns digits in number columns.
- Squints, closes, or covers one eye.
- Tilts head extremely while working at desk.
- Consistently shows gross postural deviations at desk activities.

3. Eye-Hand Coordination Abilities

- Must feel things to assist in any interpretation required.
- Eyes not used to "steer" hand movements (extreme lack of orientation, placement of words, or drawings on page).

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- Writes crookedly, poorly spaced: cannot stay on ruled lines.
- Misaligns both horizontal and vertical series of numbers.
- Uses hand or fingers to keep place on the page.
- Uses other hand as "spacer" to control spacing and alignment on page.
- Repeatedly confuses left-right directions.

4. Visual Form Perception (Visual Comparison, Visual Imagery, Visualization)

   - Mistakes words with same or similar beginnings.
   - Fails to recognize same word in next sentence.
   - Reverses letters and/or words in writing and copying.
   - Confuses same word in same sentence.
   - Repeatedly confuses similar beginnings and endings of words.
   - Fails to visualize what is read either silently or orally.
   - Whispers to self for reinforcement while reading silently.
   - Returns to "drawing with fingers" to decide likes and differences.

5. Refractive Status (Nearsightedness, Farsightedness, Focus Problems, etc.)

   - Comprehension reduces as reading continued; loses interest too quickly.
   - Mispronounces similar words as continues reading.
   - Blinks excessively at desk tasks and/or reading, not elsewhere.
   - Holds book too closely; face too close to desk surface.
   - Avoids all possible near-centered tasks.
   - Complains of discomfort in tasks that demand visual interpretation.
   - Closes or covers one eye when reading or doing desk work.
   - Makes errors in copying from chalkboard to paper on desk.
   - Makes errors in copying from reference book to notebook.
   - Squints to see chalkboard or requests to move nearer.
   - Rubs eyes during or after short periods of visual activity.
   - Fatigues easily; blinks to make chalkboard clear up after desk task.

This list was from "Learning Related Visual Problems, " ERIC Clearinghouse on Handicapped and Gifted Children, 1920 Association Drive, Reston, VA 22081, 1981.

FAILURE CRITERIA: If a student continues to have any symptoms listed, even if passes all other vision screening, refer.

TIPS:

* This list should be distributed to the teachers prior to the screening.
* This list could be printed in the school newsletter for parents prior to the screening.
* Use the "ABC CheckList" (on the following page) at time of screening for parent or teacher referrals or for screeners noting a concern at the time of the screening. It should also be used for preschool screening and kindergarten registration.

SAMPLE FORM

NAME:_____ GRADE:_____ DATE:_____

SCHOOL:_____ TEACHER:_____

ABC CHECKLIST FOR VISION

OBSERVATION AND HISTORY

Please check appropriate items and return to the school registered nurse for review and determination of action to be taken.

APPEARANCE - Do eyes look normal?

_____ Eyes turn in or out
_____ Crusty or red eyelids
_____ Different size pupils or eyes
_____ Swelling of eyelids
_____ Conjunctivitis (Pink eye)
_____ Drooping lids
_____ Other:_____

BEHAVIOR - Teacher/Parent Observation

_____ Tilts head, covers or closes one eye for critical seeing
_____ Difficulty in keeping place while reading - a "finger" reader
_____ Disinterested in activities involving critical seeing
_____ Excessive stumbling, awkwardness or daydreaming
_____ Holds printed materials in unusual position
_____ Other:_____

COMPLAINTS - Child's Statements

_____ Eyes hurt or blur while reading
_____ Headaches when reading
_____ Words move or jump about when reading
_____ Double vision
_____ Eye problem following blow to head
_____ Can't see the chalkboard
_____ Other:_____

NOMBRE_____ GRADO_____ FECHA_____

ESCUELA_____ MAESTRO/A_____

LISTA DE VERIFICACION PARA LA VISTA

OBSERVACIONES E HISTORIA

Marque los ítemes apropiados y devuelva este papel a la enfermera de la escuela de su hijo/a para que lo revise y determine que acción se ha de tomar.

APARIENCIA - ¿Aparecen los ojos normales?

____ Su hijo/a es turnio/a.
____ Los párpados tienen costras o están enrojecidos.
____ Las pupilas o los ojos son de diferentes tamaños.
____ Tiene los párpados hinchados.
____ Tiene conjuntivitis (ojos enrojecidos).
____ Tiene párpados caídos.

COMPORTAMIENTO - Observaciones de los maestros o padres

____ Su hijo/a inclina la cabeza, cubre o cierra un ojo para ver mejor.
____ Su hijo/a tiene dificultad mantener el lugar cuando lee - usa el dedo cuando lee.
____ Su hijo/a está disinteresado en actividades que requieren vista crítica.
____ Su hijo/a tropieza excesivamente, es torpe o soñador.
____ Mantiene materiales escritos en posiciones extrañas.

QUEJAS - del estudiante

____ Le duelen o se nublan los ojos al leer.
____ Le duele la cabeza al leer.
____ Mueven o saltan las palabras al leer.
____ Tiene doble visión.
____ Tiene problema de vista al recibir un golpe a la cabeza.
____ No puede ver la pizarra.

II. DISTANCE VISUAL ACUITY

PURPOSE: To test clearness of vision at distance.

VISION PROBLEMS DETECTED: Nearsightedness (Myopia), Amblyopia, Astigmatism.

EQUIPMENT: Distance Snellen chart (which includes 20/25 line), occluder (or paper cup or paper patches). 10 foot or 20 foot chart - preferably 20 foot chart.

GRADES TO BE SCREENED: Preschool, kindergarten, 1, 2, 3, 5, 7, 9, special education, new students and referrals.

PROCEDURE:

A. Select a room for testing that has subdued lighting, but is not dark. Snellen chart must be in good lighting and have all glare eliminated from the chart surface.

B. Mark off 20 feet from the eye chart and have child sit or stand on this line. Line may be marked with masking tape or paper feet placed on the floor so that the child will be standing on the 20 foot line. (If a 10 foot chart is used the line should be marked 10 feet away from chart.)

C. Occlude left eye with an occluder, a card, or cone shaped cup and test right eye. Then reverse the procedure and test left eye.

D. Instruct student who wears glasses to keep glasses on, unless student states that sight is better without glasses or that the glasses are only to be worn for reading. Then test both with and without glasses.

E. Instruct student to keep both eyes open and read the letter to which you point. Have the student read the smallest line that can be seen with either eye. (Pointing should be done below the line or symbol.)

F. When testing start with at least the 20/40 line and move down to 20/20 line. If student is unable to read 20/40 line, move upward. Failure to read more than half of the symbols on a line, requires moving to the line above until visual acuity level is established.

G. Record results. Record the line number for the last line read correctly with each eye. Refer all failures to the school registered nurse for rescreening.

H. For younger children: Use the Snellen "E" game or the HVOT letters

Show child what is expected to be done.

1. "This is an E. See which way the E is pointing. Show me with your fingers how the E is pointing." With younger children have them use their arms to show which way the E is pointing.

2. Be sure the young child understands "the E game" and can show you which direction the E is pointing.

3. The student may point to a wooden block E or the letters H, O, V, T to identify what is seen on the chart.

4. Demonstrate how to use the occluder.

5. Test from the top of the chart (larger, easier-to-read letters first) down toward bottom (small, more difficult-to-read letters).

6. Each eye must see at least 20/40 line (20/40 for younger children). If not, the student is to be referred. The important exception is a two line difference between the two eyes.

REFERRAL CRITERIA:

Each eye must see at least the 20/30 line; if not, the student is to be referred. The important exception is a two line difference between the two eyes. Example: R20/20 L20/30, because there is a 20/25 line. This is a 2 line difference.

	One Eye	Other Eye	Results
	20/20	20/20	Pass
*	20/25	20/25	Pass
	20/30	20/30	Pass
	20/20	20/25	Pass
	20/25	20/30	Pass
	20/20	20/30	Refer-two line difference
	20/30	20/40	Refer except for preschool and kdg
	20/40	20/40	Refer except for preschool and kdg

* All Snellen Charts should have a 20/25 line

TIPS:

* Do not allow students to squint during test.

* Make sure the other students can't see the chart or hear the previous child call off the letters.

* Have the chart at the student's eye level.

* Have the teacher play "the E game" with the younger children a day or two prior to screening.

* Vision is recorded as a fraction. The top number recorded refers to the number of feet from the eye chart, and the lower number refers to the line on the chart the student is able to read. If a 20 foot chart is used the top number is recorded as 20. If a 10 foot chart is used record the 20 foot equivalent value.

III. PLUS LENS TEST

PURPOSE: To discover greater than normal amounts of farsightedness (hyperopia).

VISION PROBLEMS DETECTED: Excessive farsightedness (hyperopia).

EQUIPMENT: Distance Snellen Chart, occluder, and plus 2.50 diopter lens.

GRADES TO BE SCREENED: 1, 2, 3, 5, 7, 9, special education, new students, referrals

PROCEDURE:

A. Place a pair of glasses with plus 2.50 diopters of correction on student or use flippers.

B. Follow procedures A-E under distance visual acuity.

C. If student can read the 20/30, 20/25 or 20/20 line through the plus lenses with either eye, it indicates excessive hyperopia. Referral for a second screening should be made.

REFERRAL CRITERIA: Using plus 2.50 diopter lens, if the student is able to read the 20/30, 20/25 or 20/20 line on a Snellen Chart it constitutes a referral. To pass the plus lens screening the student is not able to read these three lines. One eye is screened at a time. Failure in one eye or both constitutes a referral.

TIPS:

* Students who pass the test often comment that the glasses make things "blurry."

* Do not screen preschool or kindergarten using the plus lens.

IV. NEAR POINT OF CONVERGENCE

PURPOSE: To screen for adequate convergence (eye aiming) skills.

VISION PROBLEMS DETECTED: Convergence insufficiency.

EQUIPMENT: A small hand-held fixation target. Example: finger puppet or eraser end of pencil.

GRADES TO BE SCREENED: Preschool, kindergarten, 1, 2, 3, 5, 7, 9, special education, new students, referrals.

PROCEDURE:

A. Sit or stand directly in front of the child.

B. Hold the fixation target at 20 inches from the child's face.

C. Instruct the child to look at the target as you move it slowly toward the bridge of the child's nose and to report if the target breaks into two (doubles).

D. As you move the target toward the child's nose, watch both eyes. If one eye stops converging, the child should report seeing two targets, and you will see one eye wander outward. If neither eye turns out, record "TN" (To Nose). Not all children will report double vision at the break point, so keen observation on your part is needed. Record how far the target is from the bridge of the nose when you no longer see the eyes converging.

E. Repeat the test several times. For all failures, repeat the test to make sure the child didn't just look away at that moment.

F. Should be able to converge to at least 6" (measured from the bridge of the nose). If not, student is to be referred.

REFERRAL CRITERIA: Refer if the student is unable to converge to at least 6" from the bridge of the nose.

V. ALTERNATE COVER TEST

PURPOSE: Test eye alignment and detect potential misalignment.

VISION PROBLEMS DETECTED: Strabismus, Heterophoria

EQUIPMENT: Occluder, fixation target at a distance of 10-20 feet.

GRADES TO BE SCREENED: Preschool, kindergarten, 1,2, 3, 5, 7, 9, special education, new students, referrals.

PROCEDURE:

A. Sit or stand in front of the student.

B. Instruct student to watch a specific target.

C. Observe at eye level.

D. Cover the right eye and watch to see if the right eye moves at all to resume looking at the target when the occuluder is moved to cover the left eye.

E. Then verify the movement by watching the left eye for movement when the occluder is moved to the right eye.

F. Repeat the process several times.

G. Move the occluder fairly quickly when switching from one eye to the other, so both eyes aren't allowed to view the target simultaneously.

H. Any consistent movement is considered to be a referral for a second screening.

REFERRAL CRITERIA: Any consistent horizontal, vertical or diagonal movement of the uncovered eye while student has gaze fixated on an object in the distance, is a referral

TIP:

* Use a picture, poster or sign as the fixation target.

* If student wears glasses, test with glasses on.

VI. STEREO/DEPTH PERCEPTION

PURPOSE: To test for binocularity.

VISION PROBLEMS DETECTED: Amblyopia, suppression, poor ocular alignment.

EQUIPMENT: Polarized glasses, polarized stereo depth test. (e.g., stereo fly, stereo reindeer, stereo butterfly, or Randot)

GRADES TO BE SCREENED: Preschool, Kindergarten, 1, 2, 3, 5, 7, 9, special education, new students, referrals.

PROCEDURE:

A. With the polarized glasses on, show the child the large picture of the fly (or reindeer or butterfly) to demonstrate the upward "float" of the picture.

B. Ask the child to "pinch" the wings (or antlers) guiding the child's hand in from the side rather than straight forward.

C. The Randot has the circles, but does not have the fly or reindeer or butterfly.

D Now ask the student which of the numbered circles is floating toward them. Make sure there is no glare on the test booklet.

REFERRAL CRITERIA: Refer if the fly or reindeer or butterfly is not seen in depth for preschoolers, kindergartners and first graders. Refer students in second grade or higher if unable to identify the correct response in at least five of the numbered circles (this would achieve 100 seconds of arc).

TIP: If a student wears glasses, test with glasses on. Put the polarized glasses over them.

VII. COLOR VISION SCREENING

PURPOSE: To identify any deficiency in the ability to recognize color.

VISION PROBLEM DETECTED: Color vision deficiency.

EQUIPMENT:

A. Pseudoisochromatic or isochromatic plates for testing.

B. Use normal lighting or special color test lighting for valid color testing. If dim lighting is used, color vision testing will be inaccurate.

GRADES TO BE SCREENED: 1st grade and special education or new students who have not previously been screened, teacher referrals.

PROCEDURE:

A. Follow the manufacturer's directions for the screening tool selected.

B. Show students how to use the soft dry paint brush or cotton-tipped swab to trace the symbols on the color plate. Do not use finger or pencil to trace as it can cause color change of the plates.

C. Follow the manufacturer's direction for scoring of results.

REFERRAL CRITERIA:

A. Failure in this test is not a cause for eye doctor referral.

B. Inform the parents of the student's color vision deficiency, if present. Color deficiency is usually nonprogressive, cannot be corrected, and usually does not affect visual acuity or visual function.

C. Inform the teachers and counselors of the student's color vision deficiency so that they may:

1. adjust educational materials to situations where color discrimination is not a criterion for progress.

2. help the pupils develop special techniques for compensating for their limitations (e.g., use a light blue rather than a black felt board).

3. take into account color vision difficulties for driver training and vocational guidance.

SPECIAL NOTE: Color vision screning may be done earlier if a potential problem is identified.

CAUTION: Some younger children may not do well on this test because of difficulties in seeing figures against background, unrelated to color deficiency. Reevaluate 6-12 months later. Provide consultation to parents and teachers.

VISION SCREENING REFERRAL PROCESS

A. REFERRAL PROCEDURE

1. The school registered nurse coordinates/supervises the vision screening program. ALL FAILURES ARE REFERRED TO THE SCHOOL REGISTERED NURSE FOR REVIEW AND DETERMINATION OF ACTION TO BE TAKEN. This includes rescreening of those failing initial screening. It is best for screening to be completed by the end of 1st semester. However, some districts screen the year around. In those districts, screen the same grades at the same time each year.

2. Rescreening is completed by the school registered nurse no later than 30 working days following the initial school vision screening.

3. If rescreening tests are failed, a written referral form is signed by the school registered nurse and sent to the student's parents/guardian within 14 working days following the 2nd vision screening. The referral form will provide a space for: the results of the professional eye examination, the recommendations, the prescription if needed (see enclosed sample in Appendix).

4. A list of students referred for further vision evaluation is given to the classroom teacher for their awareness and information.

5. If the student has not received care in 1-2 months, parent/guardian follow-up contact is to be made by letter and telephone. (See vision screening follow-up procedure)

B. REFERRAL CRITERIA - Refer students who fail to school registered nurse for recheck and determination of action to be taken.

1. Observations and History - If student continues to have symptoms or complaints, refer to eye doctor even if student passes all other vision screening tests.

2. Distance Acuity

Each eye must see at least the 20/30 line, if not the student is to be referred. For preschool and kindergarten, each eye must see the at least the 20/40 line. The important exception is a two line difference between the two eyes for any age.

One Eye	Other Eye	Result
20/20	20/20	Pass
20/25	20/25*	Pass
20/30	20/30	Pass
20/20	20/25	Pass
20/25	20/30	Pass
20/20	20/30	Refer-two line difference
20/30	20/40	Refer-except for preschool & kdg
20/40	20/40	Refer-except for preschool & kdg

* All Snellen Charts should have a 20/25 line

3. Plus Lens - (grades 1-12 only)

   Using plus 2.50 diopter lens, the student's ability to read the 20/30, 20/25 or 20/20 line on a Snellen Chart constitutes a referral. Passes the plus lens screening if a student is not able to read the 20/30, 20/25 or 20/20 line. One eye is screened at a time. Failure in one eye or both constitutes a referral.

4. Near Point of Convergence - The student should be able to converge to at least 6" from the bridge of the nose. If not, refer.

5. Alternating Cover Test - Any consistent horizontal, vertical or diagnosed movement of the uncovered eye while student has gaze fixated on an object in the distance is a referral.

6. Stereo/Depth Perception: The student should be able to see the large picture of the fly, reindeer or butterfly floating. Older students should see at least 5 of the numbered circles floating (which achieves 100 seconds of arc). If not, refer.

7. Color Vision - (1st grade only and special ed or new students who have not previously been screened)

   If color vision problems are found, notify teacher and parent/guardian. Failure in this test does not necessitate a referral. (See the screening procedure for school intervention)

RECOMMENDED

VISION SCREENING FOLLOW-UP PROCESS

The school registered nurse is responsible for monitoring students to determine if further evaluation and remediation is indicated.

The vision follow-up is stated below:

1. Completed vision referral forms are returned to the school registered nurse for review.

2. The results of the professional eye exam and evaluation will be relayed in writing to the classroom teachers or other appropriate school employees by the school registered nurse or designee.

3. If there is no response from the referral form within 30 working days, contact by school visit, home visit or telephone will be made with the child and/or parent/guardian inquiring about the status of the referral. (second parent contact)

4. The school registered nurse will provide the student's parent/guardian information regarding community resources available for payment of eye examination and glasses for needy students.

5. If the referral follow-up is not received within 30 working days, direct contact is made with the student's parents/guardian by phone or home visit. (Third parent contact)

6. The school registered nurse will determine if a Child Neglect Complaint should be filed with Social Services if the above steps are followed and no evaluation has been completed.

7. Each step of the folow-up process is recorded on the student's school permanent health record.

8. Data collection will be completed as designed and requested by the Colorado Department of Health.

9. Evaluation of the yearly data and the vision screening procedure will be done jointly by the local school registered nurse and the School Health Nursing Consultant representing the Colorado Department of Education during an onsite visitation.

10. From the evaluation, an improvement plan will be completed and shared with district administrators and the CDH/CDE evaluator.

VISION SCREENING PROGRAM

PERSONNEL AND TRAINING

RECOMMENDED TEST	TRAINING REQUIREMENTS
1. Observation - "A, B, C Checklist"	1. Can be obtained by any trained screener - with contribution from teacher and/or parent/ guardian
2. Distance Visual Acuity	2. Can be administered by any trained screener
3. Plus Lens Test	3. Can be administered by any trained screener
4. Near Point of Convergence	4. Requires experience and indepth training. School registered nurse or well trained allied health care people
5. Alternate Cover Test	5. Requires experience and indepth training. School registered nurse or well trained allied health care people
6. Stereo/Depth Perception	6. Can be administered by any trained screener
7. Color Vision Screening	7. Can be administered by any trained screener

Education of vision screeners is one of the most important elements when using inexperienced personnel to assist with the vision screening program. A lesson plan for what is to be taught, and the amount of time allotted to train is essential in training vision screeners.

The vision rescreening is to be completed by the school registered nurse prior to sending written referral to the parent/guardian for a professional eye examination.

APPENDIX

VISION SCREENING SUMMARY

TEST	GRADE	TOOL	REFERRAL CRITERIA
History and Observation	Preschool, kdg, 1, 2, 3, 5, 7, 9 Special education New students	ABC Check List	If a student continues to have any symptoms listed, even if passes all other vision screening, refer
Distance Acuity	Preschool, kdg, 1, 2, 3, 5,7, 9 Special education New students	Snellen Chart with a 20/25 line (E chart, Alphabet or HOVT) and occluder	1-12th grade: Each eye must see at least the 20/30 line, otherwise refer. Must be no two line difference between eyes Preschool and Kdg: Each eye must see at least the 20/40 line, otherwise refer. Must be no two line difference between eyes
Plus Lens	1, 2, 3, 5, 7, 9 Special education, New students	Snellen Chart with a 20/25 line plus 2.50 diopter lens & occluder	1-12th grade: If a student reads 20/30, 20/25 or 20/20 line with either eye, refer. Not done for preschool or kindergarten
Near Point of Convergence	Preschool, kdg, 1, 2, 3, 5, 7, 9 Special education, New students	Small hand held fixation target	The student should be able to converge to at least 6" from the bridge of the nose. If not, refer
Alternate Cover	Preschool, kdg, 1, 2, 3, 5, 7, 9 Special education New students	Fixation target at a distance of 10-20 feet and occluder	Any consistent horizontal, vertical or diagonal movement of the uncovered eye while student has gaze fixated on an object in the distance
Stereo/Depth Perception	Preschool, kdg, 1, 2, 3, 5, 7, 9 Special education New students	Stereo fly, Stereo reindeer, Stereo butterfly, Randot	2nd-12th grade: The student should be able to see at least 5 of the numbered circles. If not, refer Preschool, kdg, 1st: If reindeer or fly is not seen in depth, refer
Color Vision	1st grade and Special education or new students who have not previously been screened	Isochromatic or Ishirhari Plates	Failure in this test does not necessitate a referral. Inform the parents and teachers of any deficiency (see screening procedure for school intervention)

EQUIPMENT RESOURCE LIST

(Here are some of the resources available)

Equipment	Availability Source	Probable Cost
* Snellen Charts		
E Chart	Duffens Optical of Denver, Inc.	$15.00
Alphabet Chart	2929 W. 9th Ave., Denver, CO 80204	$15.00
Picture Chart	623-5301 or 1-800-999-5367	$15.00
E Chart (BC11942)	Bernell	$6.50
Alphabet Chart (BC11931)	750 Lincolnway East	$7.00
Picture Chart (BC1243)	P.O. Box 4637 South Bend, Indiana 46633 1-800-348-2225	$7.00
E Chart	Franklin Ophthalmic Instruments -	$14.00
Alphabet Chart	Rocky Mountain	$14.00
HOVT Chart	1200 Diamond Circle, Unit G	$14.00
HOVT Set (chart & response card)	Lafayette, CO 80026 FAX: (303) 665-7443	$30.00
Picture Chart	665-3722 or 1-800-292-3744	$14.00
Plus 2.5 Diopter Lens: Glasses or flipper	Bernell Hyperopia screening flipper - specify +2.50 power when ordering (BC 1284-250)	$15.00
	Duffens Optical of Denver Hyperopia screening flipper - specify +2.50 power when ordering	$27.50
Titmus Stereo Fly: inc. circles and animals	School Helath Supply Co. P.O. Box 409 Addison, IL 60101-0409 1-800-323-1305	$104.00
	or Bernell (SON150	$99.95
	or Franklin/Rocky Mtn. Ophthalmic	$77.00
	or Duffens Optical of Denver	$109.50
Stereo Reindeer: inc. circles	Duffens Optical of Denver	$73.50
	or Bernell (S01020)	$65.00
	or Franklin/Rocky Mtn. Ophthalmic	$65.00

* All charts should have a 20/25 line. However, picture charts for young children do not have a 20/25 line.

EQUIPMENT RESOURCE LIST (continued)

Equipment	Availability Source	Probable Cost
Stereo Butterfly: inclues circles and animals	Duffens Optical of Denver	$109.50
	Franklin/Rocky Mtn. Ophthalmic	$77.00
	Bernell (S01000)	$99.95
Randot	Duffens Optical of Denver	$109.50
	or Bernell (SORDT)	$99.95
	Franklin/Rocky Mtn. Ophthalmic	$77.00
Isochromatic Test	School Health Supply Co.	$72.00
Ishirhara Test	School Health Supply Co.	$68.00
	or Duffens Optical of Denver	$75.00
	or Bernell (GF1254)	$89.00
	or Franklin/Rocky Mtn. Ophthalmic	$67.00

SAMPLE FORM

SCHOOL HEALTH SCREENING REPORT WORKSHEET
FOR AN INDIVIDUAL STUDENT

NAME _____ GRADE_____ DATE_____

SCHOOL_____

Wears glasses: Yes_____ No_____ Reading_____ Distance_____

Teacher Observations:_____

_____

_____

				RESCREEN	
		PASS	FAIL	PASS	FAIL
1. Distance Visual Acuity	R 20/	[ ]	[ ]	[ ]	[ ]
	L 20/	[ ]	[ ]	[ ]	[ ]
2. Plus Lens Test	R	[ ]	[ ]	[ ]	[ ]
	L	[ ]	[ ]	[ ]	[ ]
3. Convergence near point _____ inches		[ ]	[ ]	[ ]	[ ]
4. Cover test	R	[ ]	[ ]	[ ]	[ ]
	L	[ ]	[ ]	[ ]	[ ]
5. External observation_____					
_____		[ ]	[ ]	[ ]	[ ]
6. Stereo/Depth Perception_____		[ ]	[ ]	[ ]	[ ]
7. Color Vision		[ ]	[ ]	[ ]	[ ]
8. Hearing	R _____	[ ]	[ ]	[ ]	[ ]
	L _____	[ ]	[ ]	[ ]	[ ]

* *

To be completed by the School Registered Nurse:

VISION: _____ Passed, _____ Referral Recommend

HEARING: _____ Passed, _____ Referral Recommended

_____
SCHOOL REGISTERED NURSE

_____
DATE

GRADE _____ CLASSROOM RECORD WORKSHEET TEACHER _____

Name	Immunization	Distance Vision			Plus Lens			Alternate Cover Test	Convergence	Color	Depth Perception	Vision		Referred	Hearing		Hearing Recheck		Referred	Scoliosis	Referred	Comments
		Both	Rt	Lft	Both	Rt	Lft					Pass	Recheck Fail		Rt	Lft	Rt	Lft				

SAMPLE FORM

REFERRAL FOR EYE EXAMINATION

DATE:_____ SCHOOL:_____ TEACHER:_____

TO THE PARENT OF:_____ GRADE:_____

Your child's vision was screened at school recently and it is advisable for your child to have a thorough professional eye examination.

No screening program can take the place of a thorough examination. Since your child did not pass all the tests, it is strongly advised that you have your child examined.

Please take this notice to your eye doctor who, after examination, should complete this form and return it to the school registered nurse who will share the information with the appropriate school personnel.

If your child is already under treatment for his/her vision, please indicate this treatment and return this form to the school registered nurse.

REFERRAL MADE ON THE BASIS
OF THE FOLLOWING AREAS:

( ) Observation and History _____

( ) Distance Visual Acuity R 20/ L 20/ Thank You,
( ) Plus Lens Test R L
( ) Near Point of Convergence _____ inches
( ) Alternate Cover Test School Registered Nurse
( ) Stereo/Depth Perception _____ Phone:_____

- -

DOCTOR'S REPORT FOR_____ SCHOOL_____

Visual Acuity uncorrected: R-20/ L-20/ Corrected: R-20/ L-20/

Diagnosis or explanation of eye condition:_____

_____

_____

Did you prescribe:

1. Glasses: Yes_____ No_____. To be worn: Constantly_____
Close work only_____

2. Other:_____
_____
_____

When should this child be re-examined:_____

Doctor:_____ Address_____
(Please Print)
Degree:_____ Phone:_____Date:_____

NOTES